#**HandsOn**Metrology

ZEISS Smartzoom 100

Zoom in. Check. Done.



zeiss.com



Discover ZEISS Smartzoom 100, our advanced digital microscope

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High image quality & productivity



Boost visual inspection

ZEISS Smartzoom 100 is an advanced digital microscope designed to enhance efficiency in quality control, manufacturing, and industrial applications.
With its all-in-one design, automated functions, intuitive software, and easy operation, it optimizes optical inspections, reduces fatigue, and improves ergonomics.



Why does industry need a digital microscope?

Find defects earlier
Scratches, cracks, burrs, contamination, soldering defects, wear, coating problems.

Reduce scrap and rework
Problems are detected before defective parts move further through production.

Speed up root cause analysis
Investigate failures quickly and determine why a part failed.

Improve documentation
Images can be stored and attached to quality records.

Enable collaboration
The image is displayed on a screen, so engineers, operators, suppliers, and customers can all look at the same issue.

Increase productivity
Faster inspection means less machine downtime and quicker decision-making.

A sleek all-in-one solution

ZEISS Smartzoom 100 is characterized by its compact, all-in-one design – making it ideal for workstations with limited space. Assembly is straight done in a matter of minutes – without any tools or training. Furthermore, the built-in computer enables all functions and software apps to run directly on the microscope.





Lighting that makes a difference

Smartzoom 100 is equipped with a ring light which provides even illumination, while minimizing shadows. Illumination level is adjusted easily by modifying overall brightness or changing each LED element of the ring light separately. For even smoother workflows, the ring light as well as the objectives have a mag-netic mount and thus seamlessly enhance the easy operation.



Precision in focus

Sharp images at all times.
Thanks to the autofocus and the motorized height adjustment, you keep everything in focus. Additionally, using the spot focus mode, allows to focus on specific regions of interest.

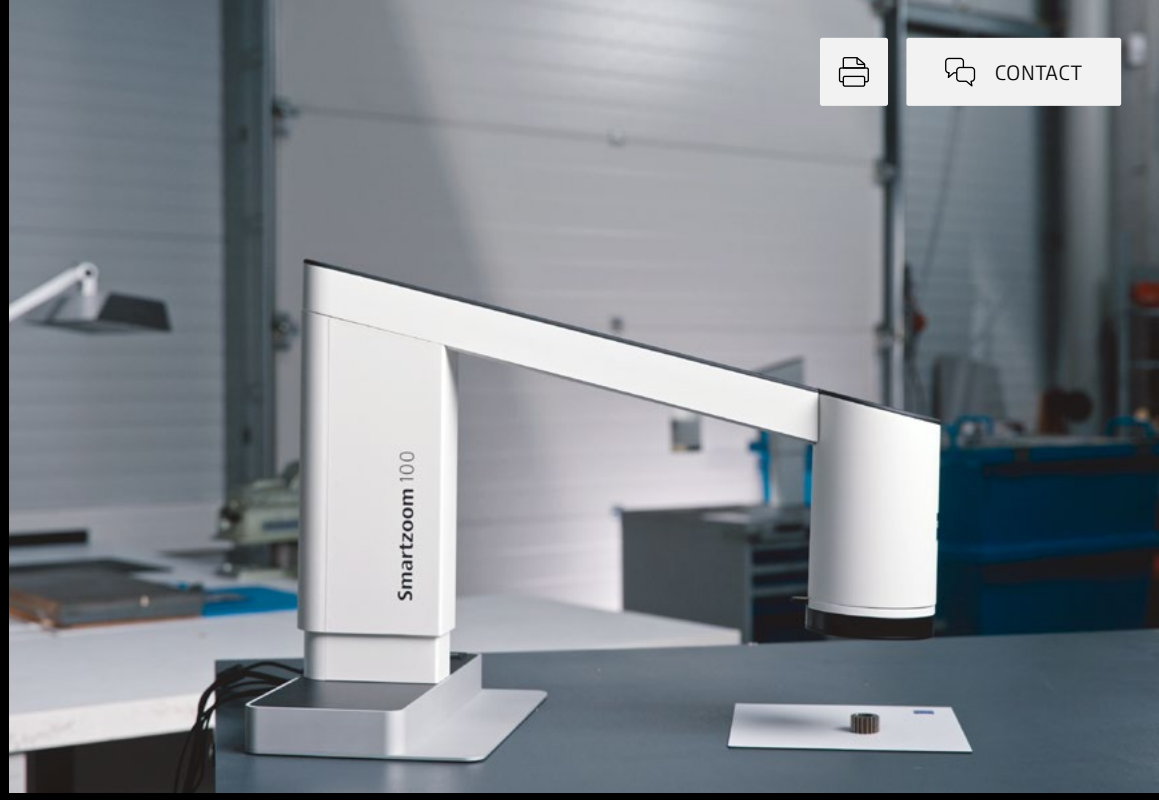
See it in 4K

The microscope camera captures 60 frames per second all displayed in a 4K resolution monitor, ensuring fastinspections.
Finest details can be seen with near zero latency while navigating through the sample.



See more, do more

The flexible FOV and large working distance of the objectives, combined with the 25x zoom and 370 mm working depth, makes Smartzoom 100 a versatile microscope for inspecting relevant details of a wide range of part sizes.







High resolution images for detailed inspection

Control it your way

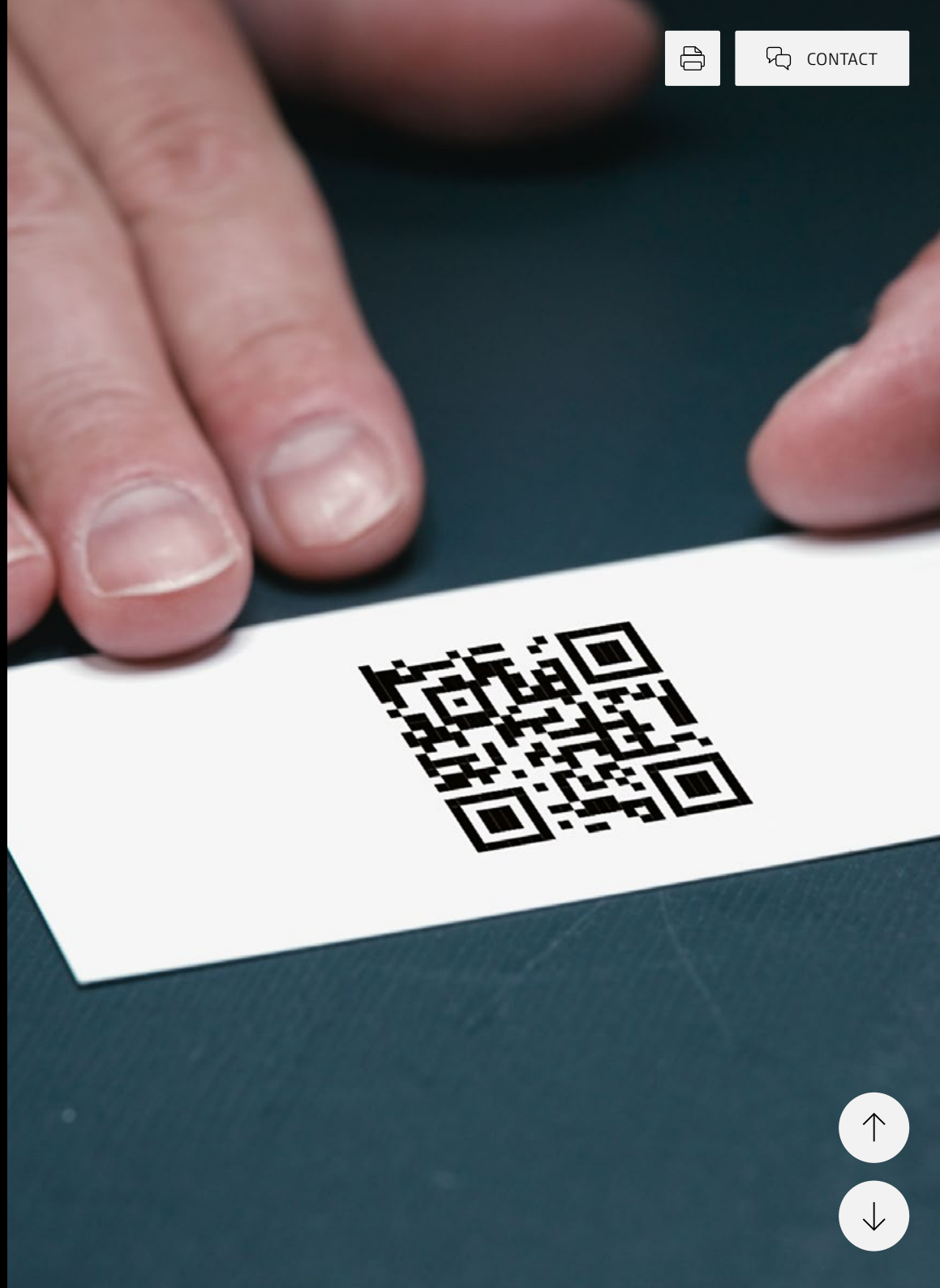
When flexibility and comfort are a must during the inspection, the digital microscope has got you covered.
Choose between different control options via controller, keyboard and mouse or an optional foot switch that frees up your hands to manipulate and move the part under inspection.





Preset-based

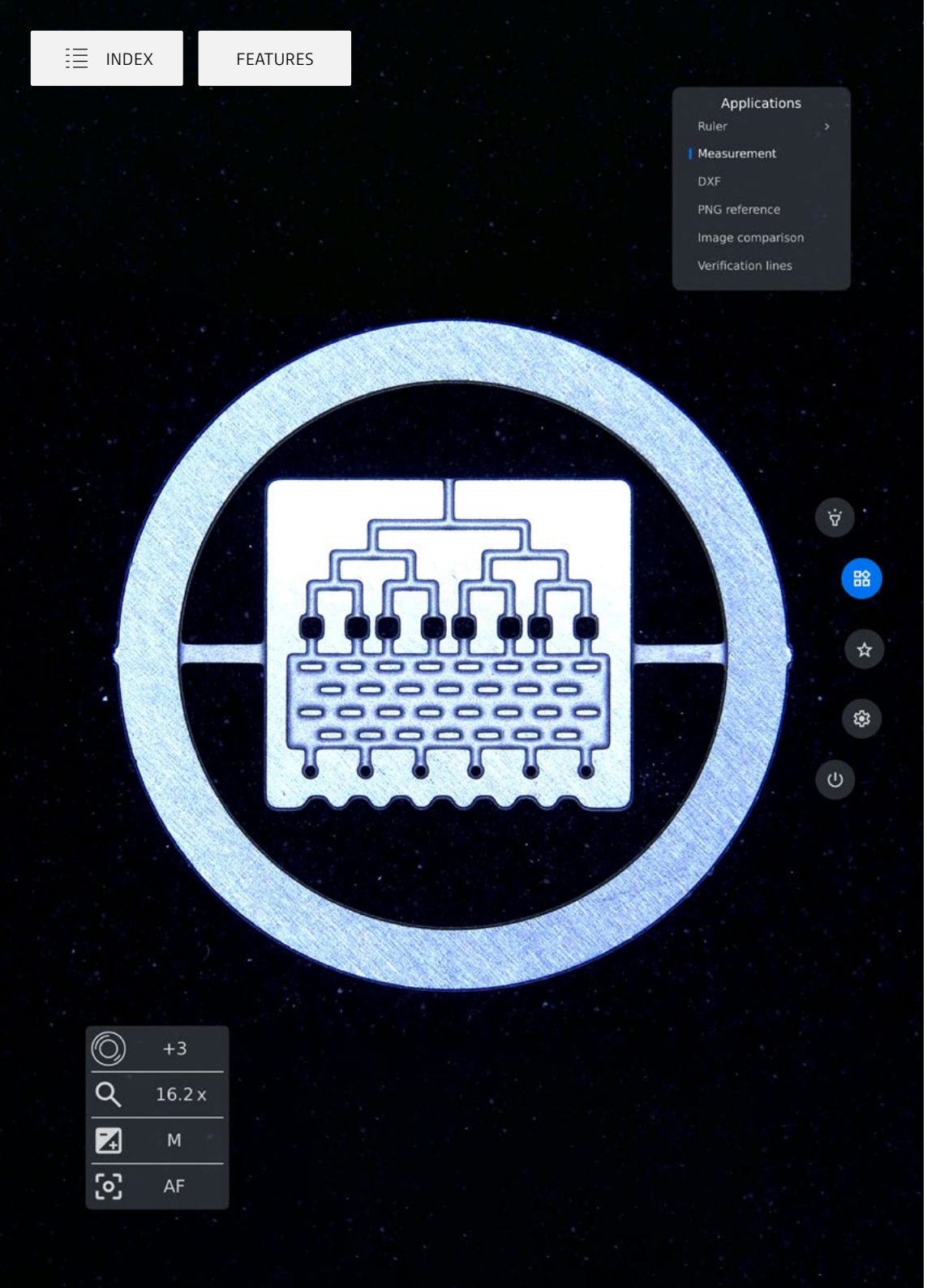
Smartzoom 100 offers high repeatability and reliability of inspection results by empowering preset-based inspection workflows. Create presets with all microscope parameters to ensure user-independent and part-specific checks.
To further simplify inspection, storing these presets as QR codes is also possible.





Collaborative inspection

With no eyepieces required, the operator‘s posture is at the optimum position, reducing fatigue for extended system use for certain applications. This enables the user to concentrate better on the inspection task and lighten the workload.
By replacing the eyepieces with a monitor, it facilitates collaborative inspection with multiple users.



Customizable software

Smartzoom 100 comes with a the basic software to control the microscope. Want to go a step futher? Choose out of the optional software apps to adapt the workflow to the specific inspection needs.

Upgrade your inspection options

Included software apps

Measurement app

Measure distances, angles, diameter and more

Ruler app

Perform precise measurements with on-screen ruler

Optional software apps

Image comparison app

Compare sample to reference image

DXF app

Find small PCB components with search bar

PNG overlay app

Perform precise measurements with on-screen ruler

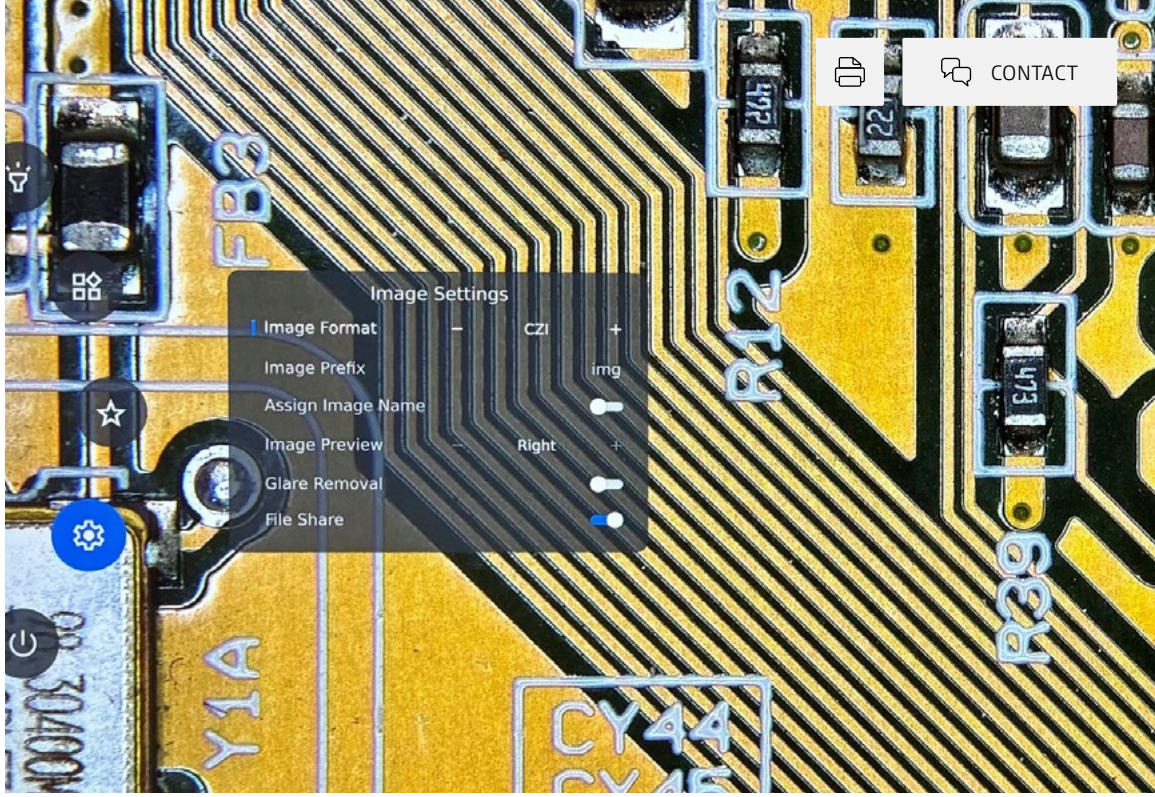
Verification lines app

Verify sample shape and dimensions

Connectivity & Network integration

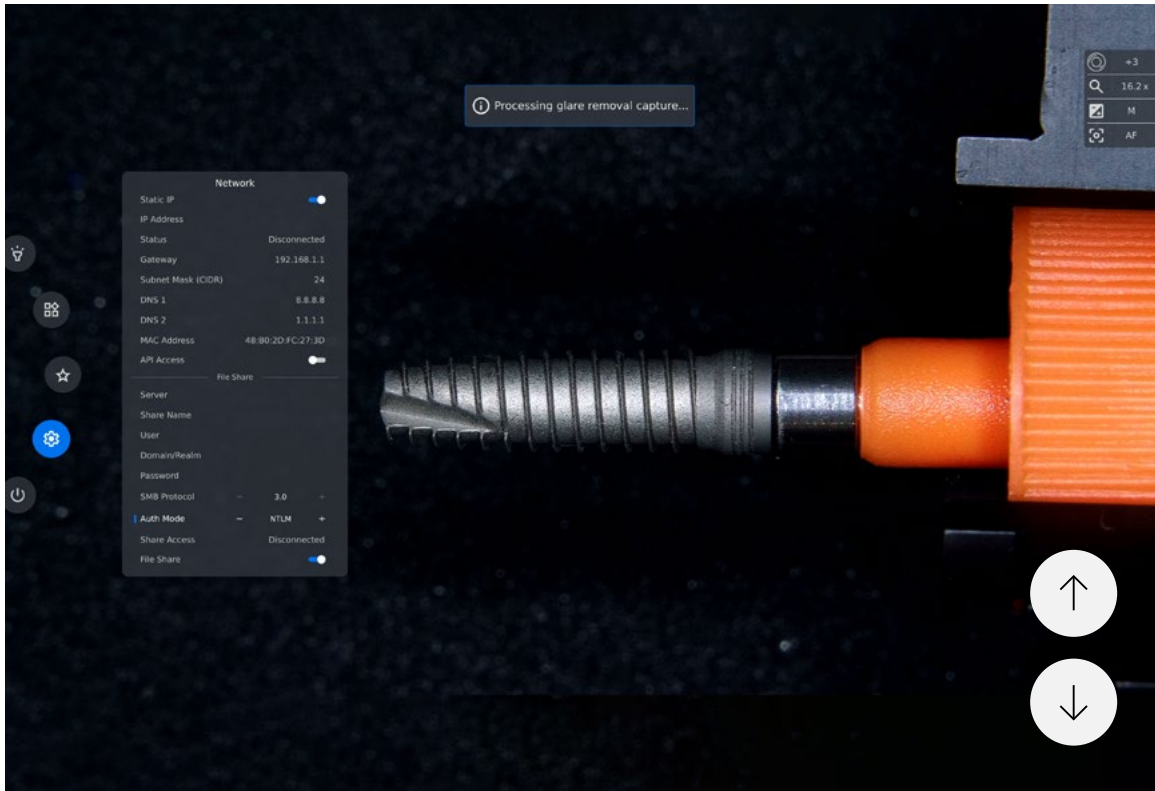
Connectivity

Images can be stored as. CZI format. When already working with other ZEISS microscopes, seamless data integration and further analysis in ZEN core software is possible.



Network integration

Images taken with Smartzoom 100 can be saved directly on a network drive or in an external PC.



Applications

Electronics
Inspection and failure check of Printed Circuit Boards & Surface-Mounted Devices

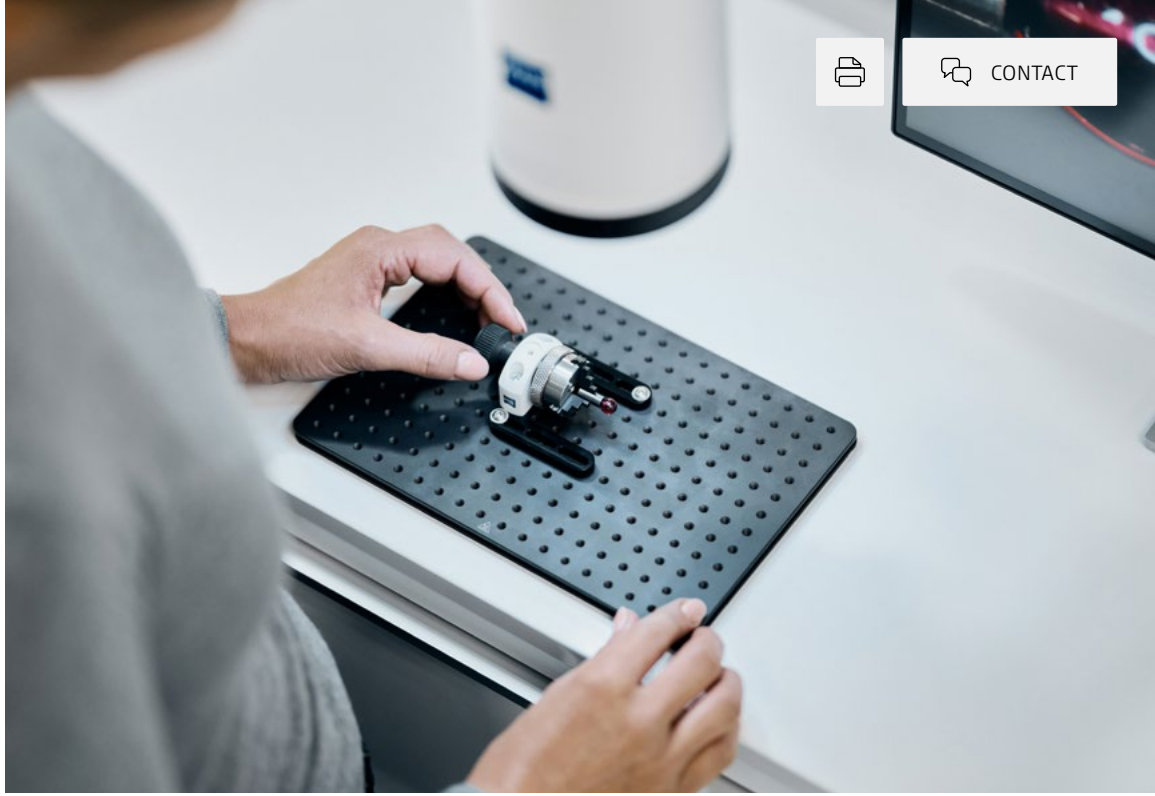
Medical devices or packaging
Inspect and failure check of e.g., implants, syringes, orthopedic components; Inspection of cracks or size issues and ensuring correct labels on packaging

Automotive
Inspection of e.g., seals and valves and ensuring precision in screws and joints/ welds

Aerospace
Inspection of compressor blades and mechanical parts

Tool/mold making and plastics
Analyzes tool wear on cutting tools, punches and inserts.
Look at the surface finish of parts or molds and detect micro-cracks, flowlines or marks.Repair verification after welding or rework

Precision machining
Failure analysis and root cause investigation





Technical data

Objective	Magnification range	Free working distance	Field of view
+3	1.6x – 40x	330 mm (12.99")	16 mm – 353 mm (0.63" – 13.90")
+5	2.8x – 66x	200 mm (7.87")	9.5 mm – 210 mm (0.37" – 8.27")
+10	5.4x – 130x	78 mm (3.07")	4.8 mm – 86 mm (0.19" – 3.39")
+25	13.2x – 328x	34 mm (1.34")	1.9 mm – 3.5 mm (0.07" – 0.14")

Dimension & weight	
Height	390 mm – 635 mm
Width	320 mm
Depth	325 mm
Working depth	370 mm
Weight	10.8 KG

Camera specs	
Camera resolution	4K (3840x2160), 8.5MP @ 60/50/30Hz
Frame rate	60 frames per second
Optical zoom	25x
Video output	HDMI
Aspect ratio	16:9





Thank you

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